



UNITED STATES PATENT AND TRADEMARK OFFICE

SW

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,404	07/26/2001	Franz Josef Bayer	225/50217	4246
7590	10/15/2003		EXAMINER	
CROWELL & MORING, L.L.P. P.O. BOX 14300 Washington, DC 20044-4300			BURNHAM, SARAH C	
			ART UNIT	PAPER NUMBER
			3636	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

SW

Office Action Summary	Application No.	Applicant(s)
	09/912,404	BAYER ET AL.
	Examiner	Art Unit
	Sarah C. Burnham	3636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 September 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>16</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information referred to in the information disclosure statements filed on September 29, 2003 has been considered as to the merits.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5, 8-9 and 14 -19 are rejected under 35 U.S.C. 103(a) as being unpatentable by Grossmann (4,890,885) Cuevas (5,902,010).. Grossman reveals a vehicle passenger seat (1), a backrest (3) and a head restraint (5), consisting of a container (10) with an "air non-permeable cover (13)" (column 2, line 43). An elastically deformable "foam-material layer (8)" (column 2, line 32) also covers the container (10). The container (10) is filled with "air" (column 3, line 18) and filling bodies (14). The container (10) is connected to a duct (19), which in turn is connected to an evacuator assembly consisting of a valve device (21) and a vacuum pump (20). A pump for the central locking system of a motor vehicle **can** serve as the vacuum pump. The evacuator assembly is located within the backrest (3) of the vehicle passenger seat (1) as shown in Figure 2. The container (10) is divided with a series of dividers (17) into a plurality of chambers. These dividers include "a large number of air passage openings

(18)" making the chambers at least partially gas conductive. Grossmann shows all claimed limitations with the exception of a vacuum being applied automatically in the event of a crash and a pre-crash sensory mechanism.

Cuevas teaches the use of a pre-crash sensory mechanism (72) that "senses vehicle conditions indicating the occurrence of a crash" (column 2, line 44). Pre-crash sensory mechanism (72) triggers electronic controller (70) which actuates an inflator (60). Elements (70) and (72) work in conjunction to automatically activate the inflator (60) of the support mechanism (36).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to install the pre-crash sensory mechanism (72) and electronic controller (70) revealed by Cuevas to automatically actuate the vacuum pump (20) disclosed by Grossman. Incorporation of such a mechanism would further reduce the chances of "injuries... during an impact (from in front, the rear or laterally)" (Grossman, column 1, line 33) by quickly and accurately positioning the head restraint prior to the impact of the seat occupant's head.

With respect to claim 19, Grossman, as modified, shows all claimed elements except, the actions of "connecting", "attaching" and "providing" which are taken to make the head restraint, and the action of "evacuating" which is taken to use the head restraint. It would have been obvious, if not inherent, due to the structural design of the head restraint assembly as presented in claims 1-18, to both make and use the assembly as claimed in claim 19. The method of making the head restraint is both

simple and efficient while the method of using the head restraint is effective in minimizing head injury during a rear end collision.

4. Claim 5 is further rejected under 35 U.S.C. 103(a) as being unpatentable over Grossmann (4,890,885) in view of Cuevas (5,902,010) as applied to claim 4 above, and in further view of Parrish (5,556,169). As presented above, Grossman, as modified, shows all claimed elements. Parrish further supports the rejection of claim 5 by teaching the use of chambers that are "fluid sealed" (column 9, line 18) from each other. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify Grossman's head restraint assembly with the fluid sealed compartments revealed by Parrish. Such a modification would allow for the "individual compartments [to be] selectively filled and evacuated at different air pressures or vacuums" (column 9, lines 18-20) and improve contouring.

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossmann (4,890,885) in view of Cuevas (5,902,010) as applied to claims 1 above, and in further view of Thorne (3,629,882). As presented above, Grossman, as modified, shows all claimed elements except filling bodies consisting of different, deformable and/or non-deformable materials.

Thorne teaches an energy dissipating support device containing "solid round pellets which may be made of polystyrene" (column 1, line 29) and "solid bars of vinyl or

nylon" (column 1, line 70). The pellets are "not compressible" (column 2, line 44). The bars or "plungers" can be "depressed" (column 2, line 42).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the head restraint of Grossman, as modified, with the pellets and bars of Thorne. The pellets and bars of Thorne provide improved material for "absorbing shock and preventing damage to fragile materials" (column 1, lines 9-10). Also, the energy-supporting device claimed by Thorne can be directly applied to "cushioning equipment such as formfitting air or spacecraft seats [and] protective elements for interior of ground vehicles." (column 1, lines b and c).

6. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grossmann (4,890,885) in view of Cuevas (5,902,010) as applied to claim 1 above, and in further view of Kunz et al. (5,806,110). As presented above, Grossman, as modified, reveals all claimed elements except a vacuum reservoir, an overpressure container and a Venturi nozzle.

Kunz teaches the use of a pressurized air source (3) which serves as a reservoir from which air is pumped into the seat. It also serves as an overpressure container for air bleeding out of the seat when it is occupied. Furthermore, Kunz teaches the use of a "venturi tube" between a hose and a valve.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify Grossman's head restrain, as modified, with the pressurized air source of Kunz. An enclosed pressure balancing system allows for the smooth flow

of air from one cavity in the system to another and therefore a smooth positioning of the seat occupant. Additionally, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify Grossman's head restraint, as modified, with the Venturi tube of Kunz because a Venturi tube would help "speed the deflation" (column 1, line 63) of Grossman's headrest.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman, (4,890,885). Grossmann shows all claimed elements except, the specific method steps of "connecting", "attaching" and "providing" which are taken to make the head restraint, and the action of "evacuating" which is taken to use the head restraint. It would have been obvious, if not inherent, due to the structural design of the head restraint assembly as presented in claims 1-18, to both make and use the assembly as claimed in claim 20. The method of making the head restraint is both simple and efficient while the method of using the head restraint is effective in minimizing head injury during a rear end collision.

Response to Amendment/Arguments

8. The amendment filed on September 29, 2003 has been considered in its entirety. Remaining issues are detailed in the sections above.

The Examiner agrees with the applicant's statement that Cuevas discloses a vehicle restraint apparatus that inflates a bladder rather than applies a vacuum when a crash condition is indicated. However, the crash sensing mechanism and the electronic

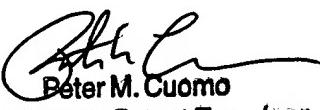
controller could be obviously applied to any sort of electric mechanism including both the inflator as disclosed by Cuevas and a vacuum pump as disclosed by Grossman. It is therefore deemed reasonable to activate the vacuum pump of Grossman with the sensory mechanism (72) and electronic controller (70) revealed by Cuevas.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah C. Burnham whose telephone number is 703-305-7315. The examiner can normally be reached on M-Th 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 703-308-0827. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-1113.



Peter M. Cuomo
Supervisory Patent Examiner
Technology Center 3600

SCB
October 9, 2003